R16

Code No: 136AG

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech III Year II Semester Examinations, May - 2019
ARTIFICIAL INTELLIGENCE
(Computer Science and Engineering)

Time: 3 hours   Max. Marks: 75

Note: This question paper contains two parts A and B.
Part A is compulsory which carries 25 marks. Answer all questions in Part A. Part B consists of 5 Units. Answer any one full question from each unit. Each question carries 10 marks and may have a, b, c as sub questions.

PART - A

(25 Marks)

1.a)   What are the problems underlying with AI?   [2]
 b)   Give a brief note on Intelligent Systems.   [3]
 c)   What is Knowledge Representation?   [2]
 d)   How can computer acquire knowledge? What is its role in problem solving?   [3]
 e)   What are the applications of expert systems?   [2]
 f)   Give a brief note on Certainty Factor Theory.   [3]
 g)   How do artificial neural networks work?   [2]
 h)   Explain the historical development of artificial neural networks.   [3]
 i)   Define NLP.   [2]
 j)   Discuss the importance and goals of the Natural Language Processing.   [3]

PART - B

(50 Marks)

2.a)   Discuss the characteristics of AI problem. Can Towers of Hanoi problem be considered as AI problem? Justify your answer with suitable discussions.
 b)   Explain the Heuristic Search Techniques.   [5+5]
                                        OR
3.a)   Give a brief note on Alpha-Beta Pruning.
 b)   List and explain the applications of Artificial Intelligence.   [5+5]

4.   Discuss about Knowledge Representation using Frames.   [10]
                                        OR
5.a)   Explain the Varieties of Logic.
 b)   Give a brief note on Axiomatic System.   [5+5]

6.   With the help of a neat diagram, explain the Expert System Architecture.   [10]
                                        OR
7.   Discuss the Bayesian Belief networks with an example.   [10]

8.   Describe the role of information gain in decision tree learning.   [10]

OR

9.   Write a short note on the following:
        a) Support Vector Machines
        b) Radial-Basis Function Networks.   [5+5]

10.a)   Give a brief note on Semantic Analysis.
    b) Explain the Universal Networking Knowledge.   [5+5]

OR

11.   List and explain the applications of Natural Language Processing.   [10]

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